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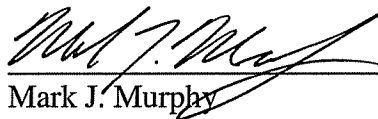
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225 Reinekers Lane
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Respectfully Submitted,



Mark J. Murphy
Registration No. 34,225
Date: May 29, 2009

COOK ALEX Ltd.
200 West Adams Street
Suite 2850
Chicago, Illinois 60606
(312) 236-8500

Customer No: 26568



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(12) **United States Patent**
Nakashima et al.

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(54) **ELECTROLUMINESCENT ELEMENT AND
LIGHT EMITTING DEVICE**

(75) Inventors: **Harue Nakashima**, Kanagawa (JP);
Satoshi Seo, Kanagawa (JP); **Takako
Takasu**, Kanagawa (JP); **Hiroko
Yamazaki**, Kanagawa (JP)

(73) Assignee: **Semiconductor Energy Laboratory
Co., Ltd.** (JP)

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H01L 51/50 (2006.01)

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(58) **Field of Classification Search** 428/690,
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See application file for complete search history.

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Primary Examiner—Dawn Garrett
(74) *Attorney, Agent, or Firm*—Cook Alex Ltd.

(57) **ABSTRACT**

There is provided an electroluminescent element using a material that is excellent in film forming properties and carrier transporting properties, emits a light in the solid state, and can be suitably used also as a host material. The electroluminescent element has an electroluminescence layer between a couple of electrodes, and a complex of a Group 4 metal of the periodic table, which is excellent in the film forming properties and the carrier transporting properties and capable of emitting a light in the solid state, is used in a part of the electroluminescence layer to form the electroluminescent element. The complex of a Group 4 metal of the periodic table has an emission wavelength on a longer wavelength side as compared with conventional host materials such as Alq₃, and thereby may be combined with a red light emitting guest material to form a light emitting layer.

16 Claims, 12 Drawing Sheets

